REMARKS

These remarks are responsive to the Office action dated April 26, 2005. Claims 1-120 are pending in the application. Claims 1-120, including original independent claims 1, 49, 56, 67, 71, 75, 77, 81, 86, 108, 111, and 119, are currently unamended. In the Office action, the Examiner rejected claims 1-15 and 17-120 as being anticipated by McMakin et al. (U.S. Patent Application No. 2004/0090359), and objected to claim 16 as being dependant upon a rejected base claim. In view of the remarks below, claim 16 is not being put in independent form at this time, and the applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

Rejections under 35 USC § 102

Claims 1-15 and 17-120 were rejected as being anticipated by McMakin. In order for there to be anticipation under 35 U.S.C. § 102, every element of a claimed invention must be disclosed in a single reference. Rejection of claims 1-15, 17-120 is improper at least because McMakin does not teach or suggest imaging systems in which the antennae arrays form an arc or travel along an arc having a center displaced from the center of the subject position, as claimed in the present application. Each independent claim of the present application is discussed in further detail below, with emphasis on the geometric recitations of curvature defined in each. Because original claims 1-120 are specifically and objectively distinguishable from McMakin, the rejections under 35 U.S.C. § 102 are inappropriate.

Claim 1 is directed to imaging systems in which an antennae apparatus forms an

arc or travels along an arc having a center displaced from the center of the subject position, the imaging system comprising an antenna apparatus configured to transmit toward and receive from a subject in a subject position having a center, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from positions spaced from the subject position and distributed along a first locus of points including at least a first curved locus of points having a center of curvature spaced from the center of the subject position; a transceiver configured to operate the antenna apparatus and produce an output representative of the received radiation; and a processor adapted to convert the transceiver output into image data representative of an image of at least a portion of the subject.

Fig. 3 of the present application illustrates a non-limiting embodiment of a top view of the claimed imaging system.

Fig. 3

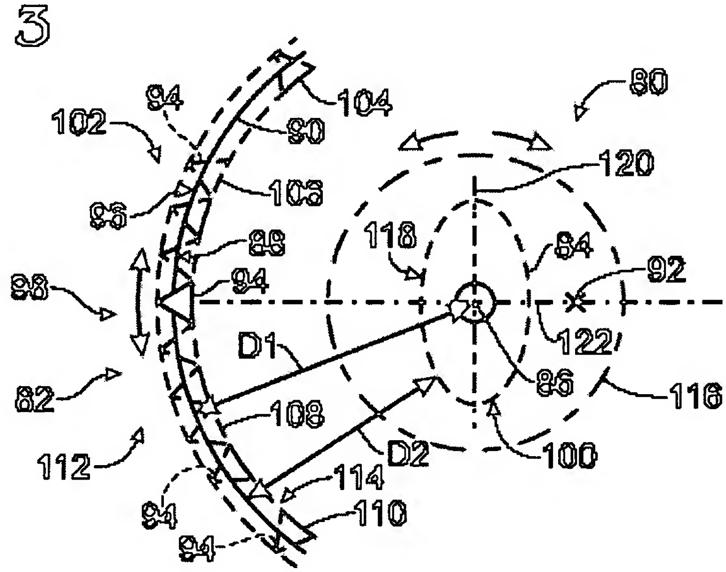
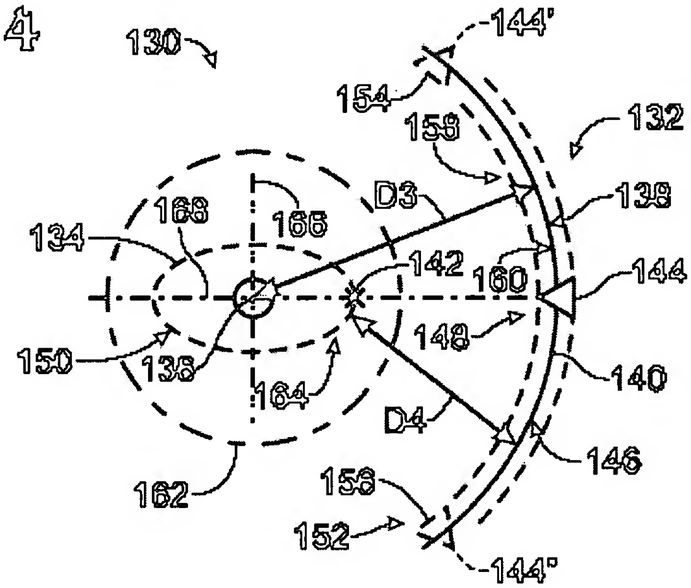


FIG. 3 illustrates a top view of an interrogation station 80 having an antenna apparatus 82 spaced from a subject position 84 having a subject center 86. Locus 88 of points is

represented by arc 90. In this example, arc 90 has a center of curvature 92 that is on the opposite side of subject center 86 from the antenna apparatus.

Fig. 4 illustrates a further non-limiting embodiment of the claimed imaging system.

Fig. 4



Interrogation station 130 has an antenna apparatus 132 spaced from a subject position 134 having a subject center 136. Locus 138 of points is represented by arc 140. In this example, arc 140 has a center of curvature 142 that is on the same side of subject center 136 from the antenna apparatus.

In contrast to claim 1 of the present application, McMakin only describes imaging systems in which rotation occurs about a concentric axis. McMakin does not teach or suggest an imaging system in which the center of curvature of an array arc is spaced from the subject center. All figures and descriptions from the McMakin published application, such as in Figs. 1-2, 5-7, 9, and 11-13, show rotation about a concentric axis.

For example, Figs. 1 and 2 illustrate an interrogation station and a top view of its platform as taught by McMakin.

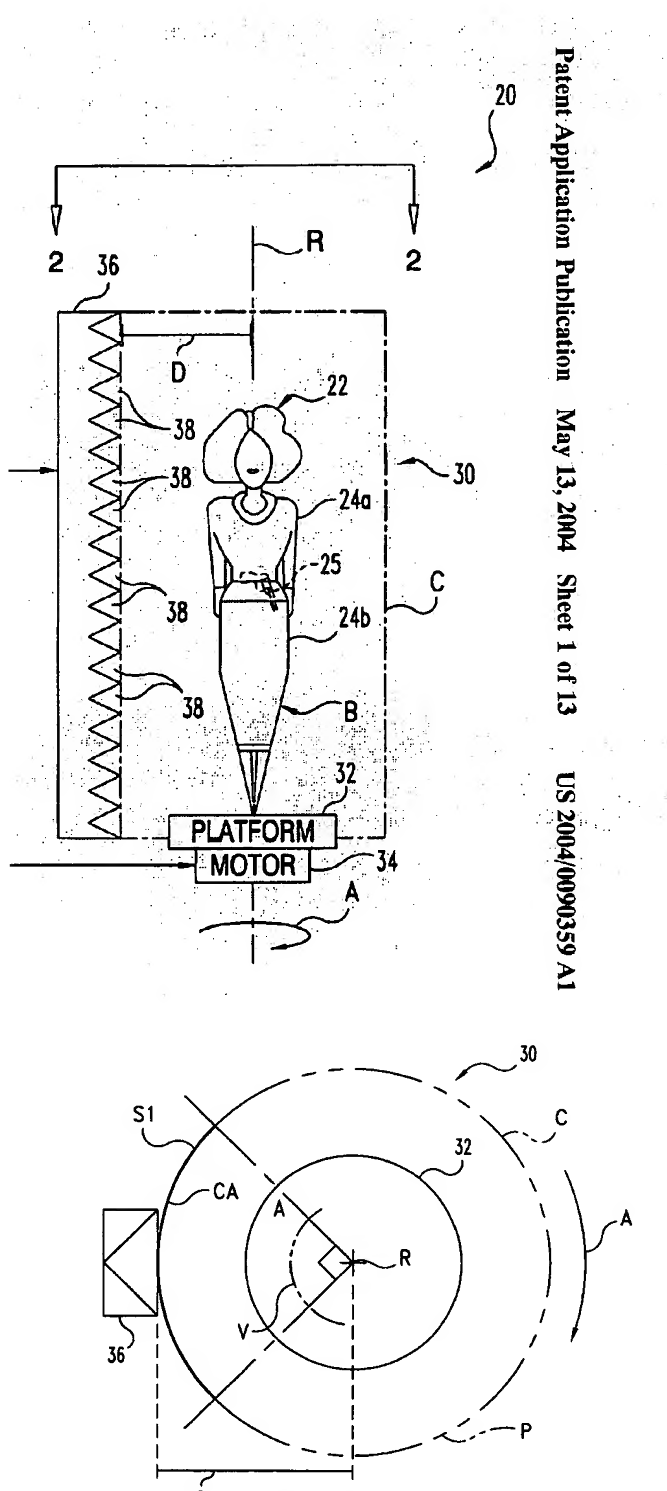


Fig. 2

Figs. 1 and 2 are described on page 2, paragraph 0030, of the published McMakin application. “Motor 34 is arranged to selectively rotate platform 32 about rotational axis R while person 22 is positioned thereon. For the orientation shown, axis R is approximately vertical, and person 22 is in a generally central position relative to axis R and platform 32.” The relationship of platform 32 to array 36 is further described on page 2 in paragraph 0031. “As motor 34 causes platform 32 to rotate about axis R, array 36 circumscribes a generally circular pathway P about axis R. Circular pathway P corresponds to an imaginary cylinder C with radius D. Radius D is the distance from axis R to array 36.” Neither the images of Figs. 1 and 2 or their descriptions teach or suggest an imaging system in which the center of array pathway P is spaced from the subject center. Instead, what is described is only rotation about a concentric axis R.

FIGS. 6 and 7 of the McMakin published application illustrate another embodiment of an imaging system as described by McMakin, in which rotation occurs about a concentric axis. Fig. 7 is reproduced below.

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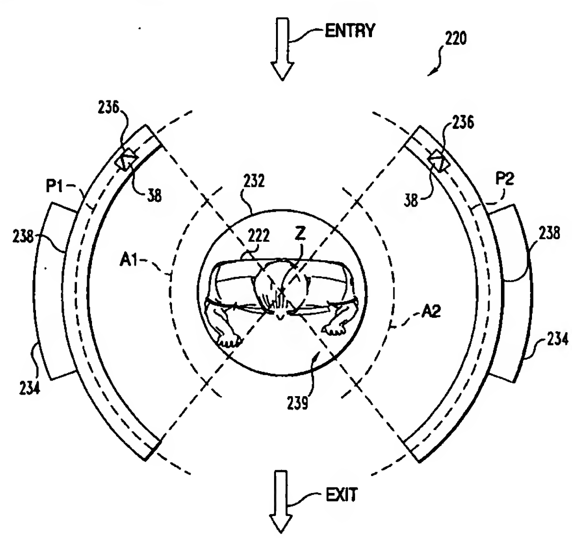

Fig. 7

The following discussion includes excerpts from the description of Figs. 6 and 7, beginning with paragraph 0061 on page 6. "Motor/drive mechanism 234 is configured to controllably move each of arrays 236 along a corresponding travel path P1 or P2 as best illustrated in FIG. 7. Notably, paths P1 and P2 are of a nonstraight, curvilinear type turning about axis Z. Axis Z is represented by crosshairs in FIG. 7 and corresponds to the vertical direction as best illustrated in FIG. 6. Correspondingly, arrays 236 each follow a path that turns about an interrogation region 239 including platform 232 and person 222." The embodiment shown in Figs. 6 and 7 and the accompanying description clearly describe an imaging system in which the subject is positioned on the center of rotation Z of the paths of the arrays and the arrays rotate around the subject position.

In addition, the alternative embodiments described by McMakin for Figs. 6 and 7 only teach imaging systems in which rotation occurs about a central axis. The following is excerpted from the end of paragraph 0061, on page 7. "Further, while paths P1 and P2 are generally the same length and symmetric about axis Z, in other embodiments paths P1 and P2 may not be the same length and/or may not be symmetric." The only asymmetric variation then suggested is that "more than two panels, arrays, and corresponding paths are utilized." This alternative embodiment does not teach or suggest an imaging system in which rotation does not occur around a central axis. Instead it describes an imaging system that is asymmetric because more than two arrays are used. By using more than two panels as suggested, then clearly the paths will not be symmetric. Thus, this alternative embodiment described does not teach or suggest the imaging system in which the array paths, or arcs, are asymmetric because

their center of curvature is spaced from the subject center.

Fig. 11 shows an additional embodiment of an imaging system as taught by McMakin in which rotation occurs about a concentric axis. The following is the description of Fig. 11, excerpted from page 8, paragraph 0071. "[S]canning booth 430 selectively rotates array 436 about rotational axis R and platform 432 during interrogation. For this arrangement, array 436 follows a generally circular pathway to provide a corresponding imaginary cylinder about platform 432." Fig. 11 and its description clearly do not teach or suggest an imaging system in which the center of curvature of array pathway R is spaced from the subject center.

Figs. 12 and 13 of the published McMakin application show an additional imaging system in which rotation occurs about a concentric axis. Fig. 13 is reproduced below. Figs. 12 and 13 are described on page 9, paragraph 0074. "[A]rray 536 is arranged as a ring or hoop generally centered with respect to centerline vertical axis CVA." Fig. 13 is further described on page 9 in paragraph 0075. "Referring further to the partial top view of FIG. 13, array 536 is sized with opening 537 to receive person 522 therethrough as array 536 moves up and down along axis CVA. In FIG. 13, axis CVA is generally perpendicular to the view plane and is represented by crosshairs. With the vertical motion of array 536, an imaginary cylinder is defined about person 522 in accordance with the circular path defined by the array ring" As shown and described, this embodiment of an imaging system clearly does not teach or suggest an imaging system in with the center of the path of the array ring, CVA, is spaced from subject center 522.

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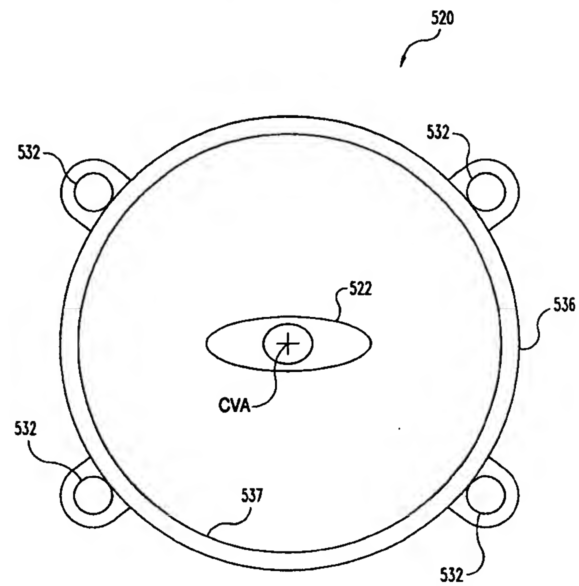


Fig. 13

The alternative embodiments then described by McMakin also do not teach or suggest an imaging system in which the center of curvature of array arc or path is spaced from the subject center. The following is an excerpt from page 9, paragraph 0078. "In a further embodiment of the present invention, the body undergoing interrogation and the array both move. In one such example, array elements are arranged in an arc segment that can move vertically while the body rotates. In other examples, both the array and body rotate and/or translationally move." This clearly does not teach or suggest an imaging system in which the center of curvature of arrays are spaced from the subject or body center because all movement described in the alternative embodiment is contained on the same center line axis.

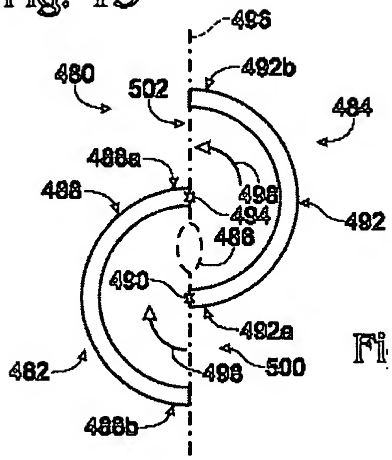
Therefore, it is clear that the imaging systems disclosed by McMakin do not teach or suggest interrogation portals in which the antennae arrays form an arc or travel along an arc having a center displaced from the center of the subject position, as taught

by claim 1 of the present application. Because of this, McMakin cannot anticipate independent claim 1. Accordingly, independent claim 1 is allowable over McMakin, and rejection of claim 1 should be withdrawn. Furthermore, because claims 2-48 depend from claim 1, those claims are allowable for at least the same reasons as claim 1. Accordingly, rejection of claims 2-48 also should be withdrawn for at least this reason.

Claim 49 of the present application is also directed to an embodiment of an imaging system in which an antennae apparatus forms an arc or travels along an arc having a center displaced from the center of the subject position, the imaging system comprising: <u>an antenna apparatus configured to transmit toward and receive from a subject in a subject position having a center</u>, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, <u>from positions spaced from the subject position and distributed along a first locus of points including at least a first curved locus of points having a center of curvature and defining a first arc having opposite ends, with the subject position being closer to one end of the arc than the other end</u>; a transceiver configured to operate the antenna apparatus and produce an output representative of the received radiation; and a processor adapted to convert the transceiver output into image data representative of an image of at least a portion of the subject.

Fig. 15 of the present application illustrates a non-limiting example of such an imaging system as taught by claim 49.

Fig. 15



An interrogation station 480 includes first and second antenna apparatus 482 and 484 in which first ends 488a and 492a of the arcs are positioned closer to the subject position than the other ends. Arc 488 in this example is semi-circular, extending from a first end 488a to a second end 488b around a center of curvature 490. Similarly, antenna apparatus 484 extends in a semi-circular arc 492 having first and second ends 492a and 492b, about a center of curvature 494. It is seen that center of curvature 490 is at the end 492a of arc 492. Similarly, center of curvature 494 is at the end 488a of arc 488. In this particular construction the four arc ends, the two centers of curvature and the subject position are aligned along a common straight line 496, therefore the center of curvature of array arc is spaced from the subject center.

As discussed above, McMakin does not teach or suggest interrogation portals in which antennae arrays have a center displaced from the center of the subject position. Because the centers of curvature and subject center could not as taught by McMakin share a common straight line, McMakin cannot anticipate independent claim 49. Accordingly, independent claim 49 is allowable over McMakin, and rejection of claim 49 should be withdrawn. Furthermore, because claims 50-55 depend from claim 49, those

claims are allowable for at least the same reasons as claim 49. Accordingly, rejection of claims 50-55 also should be withdrawn for at least this reason.

Independent claim 56 of the present application is directed to an imaging system comprising an array of antenna units configured to transmit toward and receive from a subject in a subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from positions spaced from the subject position and distributed in the array along at least a line, <u>each antenna unit being oriented at a fixed angle to the line of the array, at least one antenna unit being oriented at an acute angle to the line of the array</u>; a transceiver configured to operate the antenna apparatus and produce an output representative of the received radiation; and a processor adapted to convert the transceiver output into image data representative of an image of at least a portion of the subject.

An embodiment of an imaging system including the invention of claim 56 is shown in Fig. 12.

Fig. 12

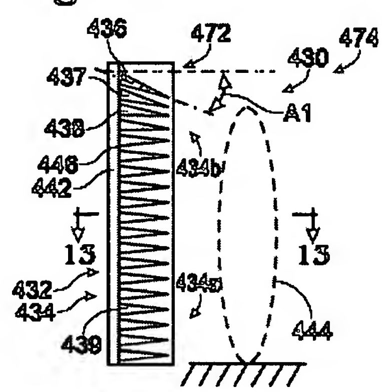


FIG. 12 illustrates simplistically an antenna apparatus 432 including a vertical array 434 of antenna units, including antenna units 436, 437, 438 and 439, represented by cone shapes for simplicity. Array 434 is mounted along a vertical frame 442. The array is

generally directed toward a subject position 444 extending generally parallel to the array.

In a lower portion 434a of the array, the antenna units, including antenna unit 439, are mounted relative to the array to extend generally perpendicular to a line 446 corresponding to frame 442. In an upper portion 434b of the array, the antenna units are mounted at an acute angle to the line of the array. For instance, antenna unit 436 is shown to be mounted at an angle A1 of about 30 degrees from the perpendicular to the line of the array, or about 60 degrees relative to the line of the array. Antenna units 437, 438 and others are at progressively increased angles relative to the line of the array until they align with the perpendicular to the array, as in lower array portion 434a.

In contrast to claim 56 of the present application, McMakin is silent as to the orientation of array units. What is implied from Fig. 1 of McMakin, reproduced above, is that the array units only project perpendicular to the array. Because McMakin does not teach or suggest a non-perpendicular array unit orientation, McMakin cannot anticipate independent claim 56. Accordingly, independent claim 56 is allowable over McMakin, and rejection of claim 56 should be withdrawn. Furthermore, because claims 57-66 depend from claim 56, those claims are allowable for at least the same reasons as claim 56. Accordingly, rejection of claims 57-66 also should be withdrawn for at least this reason.

Independent claim 67 of the present application is directed to an imaging system comprising: an array of antenna units configured to transmit toward and receive from a subject in a subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from positions spaced from the subject position and

distributed in the array along at least a line, <u>each antenna unit having a given orientation on the line of the array, at least two antenna units having different orientations on the line of the array;</u> a transceiver configured to operate the antenna apparatus and produce an output representative of the received radiation; and a processor adapted to convert the transceiver output into image data representative of an image of at least a portion of the subject.

An exemplary embodiment of an imaging system taught by claim 67 in which at least two antenna units have different orientations on the line of the array is shown in Fig. 12. Fig. 12 is shown and discussed above.

As discussed above in reference to claim 56, McMakin only discloses imaging systems in which antennae units all have the same orientation in the array. Because of this, McMakin cannot anticipate independent claim 67. Accordingly, independent claim 67 is allowable over McMakin, and rejection of claim 67 should be withdrawn. Furthermore, because claims 68-70 depend from claim 67, those claims are allowable for at least the same reasons as claim 67. Accordingly, rejection of claims 68-70 also should be withdrawn for at least this reason.

Independent claim 71 of the present application is directed to an imaging system comprising: a first antenna apparatus configured to transmit toward and receive from a subject in a subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from positions spaced from the subject position and distributed along a first locus of points; <u>a first moving mechanism adapted to move the antenna apparatus along a first antenna path; a second moving mechanism adapted to move the first moving mechanism and the antenna apparatus in a manner moving the</u>

antenna path in a direction transverse to the antenna path, between a first path position and a second path position; and a controller configured to operate the antenna apparatus when the antenna path is in the second path position, and to produce image data representative of an image of at least a portion of the subject.

A diagram depicting an example of an interrogation station including the invention of claim 71 is shown in Fig. 2.

Fig. 2

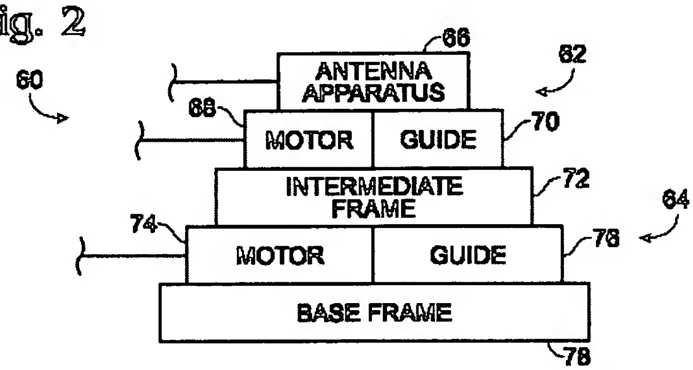


FIG. 2 illustrates a form of interrogation station 60 that includes an antenna apparatus assembly 62 and an antenna path-moving assembly 64. The antenna apparatus assembly may include an antenna apparatus 66, a motor 68, a guide 70, and an intermediate frame 72. Components 66, 68 and 70 may be mounted relative to intermediate frame 72 for moving the antenna apparatus along an antenna path. Path-moving assembly 64 correspondingly may include a motor 74, a guide 76 and a base frame 78. Motor 74 can act on antenna apparatus assembly 62 to move the position of the antenna path.

Fig. 9 shows one embodiment of an interrogation station including the invention of claim 71.

Fig. 9

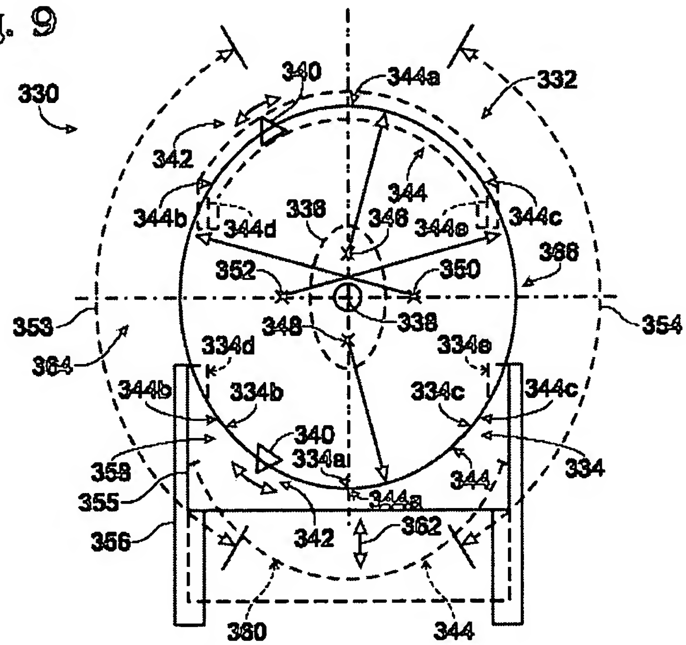


FIG. 9 illustrates an interrogation station 330 having first and second antenna apparatus 332 and 334 positioned on opposite sides of a subject position 336 having a subject center 338. In the embodiment shown, each antenna apparatus has an antenna unit 340 that may be part of an antenna array 342 that transmits and receives electromagnetic radiation along an arc 344. As shown in Fig. 9, first antenna apparatus 332 is fixed in position relative to the subject position, and second antenna apparatus 334 is adapted to move relative to the subject position. Second antenna apparatus 334 may be mounted relative to an apparatus frame 355 with a moving mechanism that is adapted to move antenna apparatus 334 relative to a base frame 356. The second antenna apparatus may thus be shifted between a first position 358, close to or proximal the subject position for imaging, and a distal, second position 360 spaced further away from the subject position. The antenna apparatus, thus, moves in a direction 362 that is transverse to associated arc 344.

In contrast to claim 71 of the present application, McMakin teaches movement of

an antenna apparatus relative only to a single frame along a single path, as described above in the discussion of McMakin with reference to claim 1. McMakin is silent as to use of a second moving mechanism assembly adapted to move an assembly of a first moving mechanism and an antenna apparatus in a direction transverse to the antenna path. Because of this, McMakin cannot anticipate independent claim 71. Accordingly, independent claim 71 is allowable over McMakin, and rejection of claim 71 should be withdrawn. Furthermore, because claims 72-74 depend from claim 71, those claims are allowable for at least the same reasons as claim 71. Accordingly, rejection of claims 72-74 also should be withdrawn for at least this reason.

Independent claim 75 of the present application is directed to an imaging system comprising: an antenna apparatus configured to transmit toward and receive from a subject in a subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from positions spaced from the subject position and distributed along a first locus of points; <u>a first moving mechanism adapted to move the antenna apparatus along a first antenna path; a second moving mechanism adapted to move the first moving mechanism and the antenna apparatus in a manner moving the antenna path in a continuous loop around the subject position</u>; and a controller configured to operate the antenna apparatus, when the antenna path is in different positions around the loop, and first and second moving mechanisms, and to produce image data representative of an image of at least a portion of the subject.

Fig. 2, as shown and discussed above, is a diagram depicting an example of an interrogation station including the invention of claim 75. Figs. 11A-11D show top views of a sequence of operation of an embodiment of an interrogation station as taught by

claim 75.

Fig. 11A

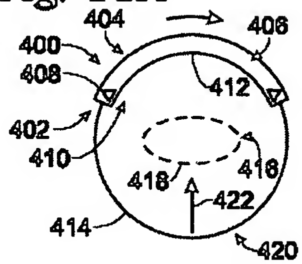


Fig. 11B

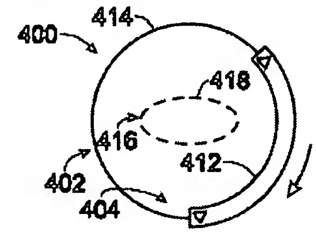


Fig. 11C

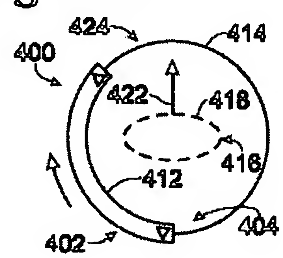
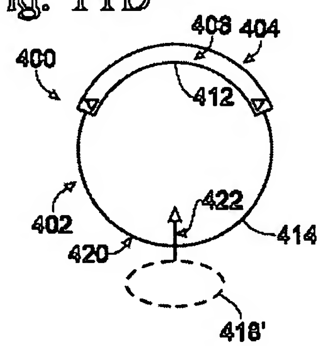


Fig. 11D



Interrogation station 400 provides for continuous rotation of an antenna apparatus assembly 402. Assembly 402 is shown as having an antenna apparatus 404 extending along an arc 406. Antenna apparatus assembly 402 includes an antenna unit 408, which may be included in an antenna array 410. The antenna apparatus assembly may be adapted to move along a path defined by a guide, as represented by a track 414.

The antenna apparatus 404 performs imaging from positions along arc 406 in a starting position shown in FIG. 11A. After scanning a first side of the subject, the antenna apparatus assembly moves along track 414 to a second position, which may be complementary to the initial position, as shown in FIG. 11B. The next 120 degrees of image of the subject may then be scanned. Assembly 402 then may move to a third position at which the final 120 degrees of scanning of the subject is performed, as shown in FIG. 11C. The antenna apparatus assembly 402 may then move along track

414 to the initial position as shown in FIG. 11D.

In contrast to claim 75 of the present application, McMakin does not teach or suggest imaging systems in which the antennae apparatus is moved along a first path, and the antenna apparatus and first path move in a continuous loop around the subject position. Because of this, McMakin cannot anticipate independent claim 75. Accordingly, independent claim 75 is allowable over McMakin, and rejection of claim 75 should be withdrawn. Furthermore, because claim 76 depends from claim 75, this claim is allowable for at least the same reasons as claim 75. Accordingly, rejection of claim 76 also should be withdrawn for at least this reason.

Independent claim 77 of the present application is directed to an imaging system comprising: first and second antenna apparatus configured to transmit toward and receive from a subject in a subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from respective positions spaced from the subject position; <u>a first moving mechanism adapted to move the first antenna apparatus along a first antenna path; a second moving mechanism adapted to move the second antenna apparatus along a second antenna path spaced from the first antenna path; a third moving mechanism adapted to move the first moving mechanism and the first antenna apparatus in a first direction around the subject position, and adapted to move the second moving mechanism and the second antenna apparatus in a second direction opposite the first direction around the subject position</u>; and a controller configured to operate the antenna apparatus, when the antenna path is in different positions around the loop, and first and second moving mechanisms, and to produce image data representative of an image of at least a portion of the subject.

An example of an imaging system according to claim 77 includes a system similar to the system shown in Fig. 2, similar to that shown and discussed above, and as shown in Figs. 10A-10C.

Fig. 10A

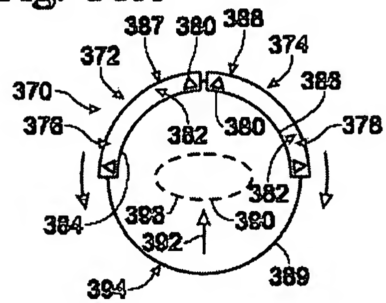


Fig. 10B

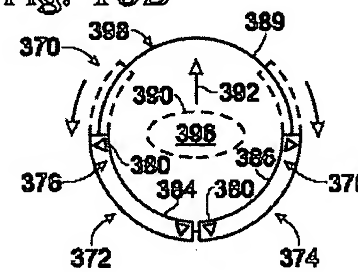
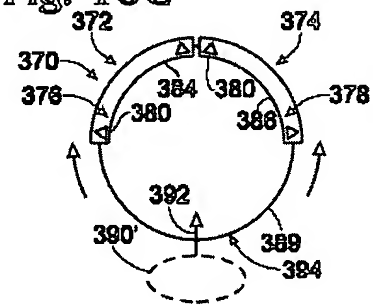


Fig. 10C



FIGS. 10A-10C depict an interrogation station 370 having first and second antenna apparatus assemblies 372 and 374, each having a respective antenna apparatus 376 and 378. Each antenna apparatus correspondingly includes one or more antenna units 380 and, if appropriate, an antenna array 382. Apparatus assemblies 372 and 374 may be moved along an apparatus path, such as defined by a track 389.

Initially, the antenna apparatus 376 and 378 may perform imaging along arcs 387 and 388 in a starting position as shown in FIG. 10A. After scanning the first side of the subject, the antenna apparatus assemblies may move in opposite directions along track 389 to an upstream position on path 392 at the entrance 394 to the interrogation station as shown in FIG. 10B. The antenna apparatus assemblies are then again moved

along track 389 in opposite directions to the initial position as shown in FIG. 10C.

As discussed above, McMakin does not teach or suggest imaging systems in which a first antenna apparatus is moved along a first path, a second antenna apparatus is moved along a second path, and the first antenna apparatus and first path move in a first direction around the subject position, and the second antenna apparatus and second path move in the direction opposite the first direction around the subject position. Because of this, McMakin cannot anticipate independent claim 77. Accordingly, independent claim 77 is allowable over McMakin, and rejection of claim 77 should be withdrawn. Furthermore, because claims 78-80 depend from claim 77, those claims are allowable for at least the same reasons as claim 77. Accordingly, rejection of claims 78-80 also should be withdrawn for at least this reason.

Independent claim 81 of the present application is directed to a further embodiment of an imaging system in which an antennae apparatus forms an arc or travels along an arc having a center displaced from the center of the subject position, the imaging system comprising: <u>an antenna apparatus configured to transmit toward and receive from a subject in a subject position having a center</u>, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, <u>from positions spaced from the subject position and distributed along a first arc having opposite ends, and the subject position is closer to one end of the arc than the other end</u>; a transceiver configured to operate the antenna apparatus and produce an output representative of the received radiation; and a processor adapted to convert the transceiver output into image data representative of an image of at least a portion of the subject.

An embodiment of an imaging system according to claim 81 is shown in Fig. 15,

which is shown and discussed above. In embodiments of an imagining system as taught by claim 81, the center of curvature of the antenna array is spaced from the subject center because, as provided by the claim, the subject position is closer to one end of the arc than the other.

As discussed above, McMakin does not teach or suggest imaging systems in which an antennae array has a center displaced from the center of the subject position, and particularly not one in which the subject position is closer to one end of an arc of radiation transmission than the other end. Because the subject position, as taught by McMakin, is not closer to one end of an arc of radiation transmission than the other, McMakin does not anticipate independent claim 81. Accordingly, independent claim 81 is allowable over McMakin, and rejection of claim 81 should be withdrawn. Furthermore, because claims 82-85 depend from claim 81, those claims are allowable for at least the same reasons as claim 81. Accordingly, rejection of claims 82-85 also should be withdrawn for at least this reason.

Independent claim 86 is directed to a method of imaging in which the center of curvature of the transmitting means is spaced from the subject center, the method of imaging comprising: <u>transmitting toward a subject in a subject position having a center</u>, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, <u>from positions spaced from the subject position and distributed along a first locus of points including at least a first curved locus of points having a center of curvature spaced from the center of the subject position</u>; receiving from the subject reflected electromagnetic radiation; producing an output representative of the received radiation; and converting the output into image data representative of an image of at least a portion of the subject.

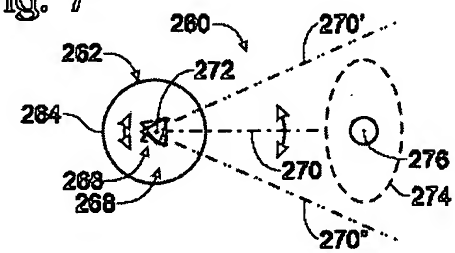
The method of claim 86 includes methods of imaging, such as are provided by Figs. 3 and 4, which are shown and discussed above in reference to claim 1.

As discussed above, McMakin does not teach or suggest methods of imaging in which an antennae array forms an arc or travels along an arc having a center displaced from the center of the subject position. Because of this, McMakin cannot anticipate independent claim 86. Accordingly, independent claim 86 is allowable over McMakin, and rejection of claim 86 should be withdrawn. Furthermore, because claims 87-107 depend from claim 86, those claims are allowable for at least the same reasons as claim 86. Accordingly, rejection of claims 87-107 also should be withdrawn for at least this reason.

Independent claim 108 is directed to a method of imaging in which radiation is scanned from a transmission position across at least a portion of the subject position, the method of imaging comprising: transmitting from a transmission position spaced from a subject position toward a subject in the subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz; <u>scanning the radiation transmitted from the transmission position across at least a portion of the subject position</u>; receiving from the subject reflected electromagnetic radiation; producing an output representative of the received radiation; and converting the output into image data representative of an image of at least a portion of the subject.

The method of claim 108 includes methods of imaging such as are provided by systems including apparatusillustrated in Figs. 5, 6, 7 and 7. Fig. 8..

Fig. 7



As an example, FIG. 7, shown above, illustrates a top view of an interrogation station 260. Interrogation station 260 may include an antenna apparatus 262 that is fixed in position on a frame 264 that may include an enclosure or housing for the antenna apparatus. The antenna apparatus includes an antenna unit 266 that may be part of an antenna array 268. Each antenna unit may have a beam, represented by line 270. A moving mechanism, not shown, may pivot the antenna unit(s) of antenna apparatus 262 about a pivot axis 272 shown aligned with the antenna units. As illustrated in FIGS. 5 and 6, the pivot axis may also be spaced from the antenna units. During pivoting, beam 270 may scan across a subject position 274 having a subject center 276. When the antenna apparatus includes an array of antenna units, the antenna units may be individually pivoted or may be pivoted collectively.

As explained above, McMakin does not teach or suggest methods of imaging in which radiation is scanned from a transmission position across at least a portion of the subject position. Because of this, McMakin cannot anticipate independent claim 108. Accordingly, independent claim 108 is allowable over McMakin, and rejection of claim 108 should be withdrawn. Furthermore, because claims 109-110 depend from claim 108, those claims are allowable for at least the same reasons as claim 108. Accordingly, rejection of claims 109-110 also should be withdrawn for at least this reason.

Independent claim 111 of the present application is directed generally to a system of imaging in which a transmitting means transmits radiation from a curved locus of points having a center of curvature spaced from the subject center, the system of imaging comprising: <u>means for transmitting toward a subject in a subject position having a center</u>, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, <u>from positions spaced from the subject position and distributed along a first locus of points including at least a first curved locus of points having a center of curvature spaced from the center of the subject position</u>; means for receiving from the subject reflected electromagnetic radiation; means for producing an output representative of the received radiation; and means for converting the output into image data representative of an image of at least a portion of the subject.

The system of imaging taught by claim 111 includes embodiments of imaging systems as shown in Figs. 3 and 4, shown and discussed above in reference to claim 1, in which radiation is transmitted from positions along a curved locus of points having a center of curvature spaced from the subject center.

As explained above, McMakin does not teach or suggest a system of imaging having a transmitting means that transmits radiation from positions spaced from the subject position and distributed along a locus of points including at least a curved locus of points having a center of curvature space from the subject position. Because of this, McMakin cannot anticipate independent claim 111. Accordingly, independent claim 111 is allowable over McMakin, and rejection of claim 111 should be withdrawn. Furthermore, because claims 112-118 depend from claim 111, those claims are allowable for at least the same reasons as claim 111. Accordingly, rejection of claims

112-118 also should be withdrawn for at least this reason.

Independent claim 119 is directed to a system of imaging comprising means for transmitting from a transmission position spaced from a subject position toward a subject in the subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz; <u>means for scanning the radiation transmitted from the transmission position across at least a portion of the subject position</u>; means for receiving from the subject reflected electromagnetic radiation; means for producing an output representative of the received radiation; and means for converting the output into image data representative of an image of at least a portion of the subject.

The system of imaging taught by claim 119 includes embodiments of imaging systems as shown in Fig. 7, shown and discussed above in reference to claim 108, in which radiation is scanned from a transmission position across at least a portion of the subject position.

As explained above, McMakin does not teach or suggest systems of imaging in which radiation is scanned from a transmission position across at least a portion of the subject position. Because of this, McMakin cannot anticipate independent claim 119. Accordingly, independent claim 119 is allowable over McMakin, and rejection of claim 119 should be withdrawn. Furthermore, because claim 120 depends from claim 119, this claim is allowable for at least the same reasons as claim 119. Accordingly, rejection of claim 120 also should be withdrawn for at least this reason.

Applicants believe that this application is in condition for allowance for the above reasons. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a

telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, to: Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on July 19, 2005.

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Respectfully submitted,

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